

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A control area network comprising:

a master controller provided with a dispatch component for sending commands;

first and second devices respectively coupled to said master controller, said first device having a first state representing a plurality of data values associated with said first device, and said second device having a second state representing a plurality of data values associated with said second device; and

a device manager disposed to receive a command from said dispatch component of said master controller, and to control operation of said first and second devices in response to said command by constructing a virtual device and coupling said virtual device to said first and second devices to provide control information thereto, said device manager comprising a component of said master controller; and

said device manager is further disposed to generate first and second data state change requests by replicating a data state change request received by said virtual device such that said first and second data state change requests are substantially similar to said received data state change request, said first and second data state change requests being sent to said first and second devices, respectively.

2. (Previously Presented) The control area network according to claim 1, wherein said first and second devices each has a device port, and said virtual device has a virtual port linked to each of said device ports.

3. (Previously Presented) The control area network according to claim 1, wherein said virtual device has a virtual device state that is linked to said first and second states, and is adapted to control said first and second states.

4. (Original) The control area network according to claim 1, wherein said first and second devices are each channels and said virtual device is a virtual channel.

5. (Canceled).

6. (Currently Amended) The control area network according to claim ~~5~~ 3, wherein said device manager is operable to utilize said virtual device to maintain said virtual device state and said first and second states in a substantially similar condition.

7. (Canceled).

8. (Currently Amended) The control area network according to claim ~~7~~ 1, wherein said data state change request is a command sent by said master controller in the control area network.

9. (Currently Amended) The control area network according to claim ~~7~~ 3, wherein said virtual device state is updated in response to said data state change request, said first state is updated in response to said first generated data state change request and said second state is updated in response to said second data state change request.

10. (Canceled).

11. (Currently Amended) The control area network according to claim ~~10~~, 3 wherein said first and second devices are each operable to respond to input by changing said respective first and second states, wherein the change in said first state effects substantially similar changes in said virtual device state, and wherein the change in said second state effects substantially similar changes in said virtual device state.

12. (Original) The control area network according to claim 11, wherein said input is an external input from an associated external device.

13. (Original) The control area network according to claim 11, wherein said input is an external input from a user.

14. (Currently Amended) The control area network according to claim ~~10~~ 3 further including level input, wherein each of said virtual device state and said first and second states include a level data portion therein, wherein said first and second devices are each operable to respond to said input by changing said level data portion of said respective first and second states, wherein the change in said level data portion of said first state is replicated in said level data portion of said virtual device state by said device manager and the change in said level data portion of said first state is replicated in said level data portion of said second device state by said device manager, and wherein the change in said level data portion of said second state is replicated in said level data portion of said virtual device state by said device manager and the change in said level data portion of said second state is replicated in said level data portion of said first device state by said device manager such that each of said level data portions of said virtual device state, said first device state and said second device state are maintained in a substantially similar condition.

15. (Currently Amended) The control area network according to claim ~~10~~ 3 further including channel change input, wherein each of said virtual device state and said first and second states include a channel data portion therein, wherein said first and second devices are each operable to respond to said channel change input by changing said channel data portion of said respective first and second states, wherein the change in said channel data portion of said first state is replicated in said channel data portion of said virtual device state by said device manager, and wherein the change in said channel data portion of said second state is replicated in said channel data portion of said virtual device state by said device manager.

16. (Currently Amended) The control area network according to claim ~~10~~ 3 further including string change input, wherein each of said virtual device state and said first and second states include a string data portion therein, wherein said first and second devices are each operable to respond to said string change input by changing said string data portion of said respective first and second states, wherein the change in said string data portion of said first state is replicated in said string data portion of said virtual device state by said device manager, and wherein the change in said string data portion of said second state is replicated in said string data portion of said virtual device state by said device manager.

17. (Currently Amended) The control area network according to claim ~~10~~ 3 further including command change input, wherein each of said virtual device state and said first and second states include a command data portion therein, wherein said first and second devices are each operable to respond to said command change input by changing said command data portion of said respective first and second states, wherein the change in said command data portion of said first state is replicated in said command data portion of said virtual device state by said device manager, and wherein the change in said command data portion of said second state is replicated in said command data portion of said virtual device state by said device manager.

18. (Currently Amended) The control area network according to claim ~~5~~ 3, wherein ~~said~~ a linking between said virtual device and said first and second devices may be created at run-time.

19. (Currently Amended) The control area network according to claim ~~5~~ 3, wherein ~~said~~ a linking between said virtual device and said first and second devices may be modified at run-time.

20. (Currently Amended) The control area network according to claim ~~5~~ 3, wherein, ~~said~~ a linking between said virtual device and said first and second devices may be defined only at compile time and may only be changed by resetting said master controller.

21. (Currently Amended) A control area network comprising:

a master controller provided with a dispatch component;

a plurality of devices coupled to said master controller, each of said devices having a respective state representing a plurality of data values associated with said respective devices; ~~and~~

a device manager ~~provided in~~ associated with said master controller to receive a command from said dispatch component, and to control operation of said plurality of devices by constructing a virtual device associated with a set of said devices, said virtual device having a virtual device state, and ~~coupling~~ said virtual device coupled to said set of devices to selectively establish and change said respective states associated with said set[.]; and

said virtual device, in response to receiving a data state change request, generating a plurality of respective device state change requests for each device in said set by replicating said received data state change request such that each said device state change request is substantially similar to said data state change request, and wherein said device state change requests are sent to said each device in said set.

22. (Original) The control area network according to claim 21, wherein said virtual device state and said respective states are maintained in a substantially similar condition.

23. (Canceled).

24. (Canceled).

25. (Currently Amended) The control area network according to claim ~~24~~ 21, wherein said data state change request is a command sent by said master controller in the control area network.

26. (Currently Amended) The control area network according to claim ~~24~~ 21, wherein said virtual device updates said virtual device state in response to said data state change request and each of said devices in said set update said respective states in response to said device state change requests.

27. (Canceled).

28. (Currently Amended) The control area network according to claim ~~27~~ 21 further including level input, wherein each of said virtual device state and said respective states include a level data portion therein, wherein said devices in said set are each operable to respond to said level input by changing said level data portion of said respective states, wherein the change in said level data portion of state of one of said devices in said set is effected in said level data portion of said state associated with each of said devices in said set distinct from said one of said devices in said set and in said level data portion of said virtual device state such that each of said level data portions of said respective states associated with said devices in said set and said virtual device state are maintained in a substantially similar condition.

29. (Currently Amended) The control area network according to claim ~~27~~ 21 further including channel change input, wherein each of said virtual device state and said respective states include a channel data portion therein, wherein said devices in said set are each operable to respond to said channel input by changing said channel data portion of said respective states, wherein the change in said channel data portion of state of one of said devices in said set is effected in said channel data portion of said virtual device state.

30. (Currently Amended) The control area network according to claim ~~27~~ 21 further including string change input, wherein each of said virtual device state and said respective states include a string data portion therein, wherein said devices in said set are each operable to respond to said string input by changing said string data portion of said respective states, wherein the change in said string data portion of state of one of said devices in said set is effected in said string data portion of said virtual device state.

31. (Currently Amended) The control area network according to claim ~~27~~ 21 further including command change input, wherein each of said virtual device state and said respective states include a command data portion therein, wherein said devices in said set are each operable to respond to said command input by changing said command data portion of said respective states, wherein the change in said command data portion of state of one of said devices in said set is effected in said command data portion of said virtual device state.

32. (Original) The control area network according to claim 28, wherein said level input is from an associated external device associated with said devices.

33. (Original) The control area network according to claim 28, wherein said level input is an external input from a user.

34. (Currently Amended) The control area network according to claim 21, wherein a ~~said~~ linking between said virtual device state and said respective device states may be created at run-time.

35. (Currently Amended) The control area network according to claim 21, wherein a ~~said~~ linking between said virtual device state and said respective device states may be modified at run-time.

36. (Currently Amended) The control area network according to claim 21, wherein a ~~said~~ linking between said virtual device state and said respective device states may be defined only at compile time and may only be changed by resetting said master controller.

37. (Canceled).

38. (Canceled).

39. (Canceled).

40. (Canceled).

41. (Canceled).

42. (Canceled).

43. (Canceled).

Application No. 09/328,921
Amendment Dated: June 7, 2004
Reply to Office Action Dated March 8, 2004

Attorney Docket No. 126239-1003

44. (Canceled).

45. (Canceled).